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ABSTRACT

Virtually all college teachers are required or expected to administer to their students some type of course evaluation instrument at one or more points during each course. These evaluation measures are based on what faculty and administrators consider to be characteristics of effective college teaching, with little or no input from students. Although recent research has documented what college students think are attributes of effective primary and secondary teachers, scant information exists about what students perceive to be characteristics of effective college teachers. Thus, this qualitative study used a multistage concurrent mixed-methodological analysis to examine students' perceptions of the characteristics of effective college teachers as a function of several demographic variables (e.g., students' gender, age, year of study, major). Participants were 912 undergraduate and graduate students from various academic majors enrolled at a university in a mid-southern state. In order of endorsement level, a phenomenological analysis revealed the following nine characteristics that students considered to reflect effective college teaching: (1) student-centered (58.88%); (2) knowledgeable about subject matter (44.08%); (3) professional (40.79%); (4) enthusiastic about teaching (29.82%); (5) effective at communication (23.46%); (6) accessible (23.25%); (7) competent at instruction (21.82%); (8) fair and respectful (21.60%); and (9) provider of adequate performance feedback (5.04%). These themes were related to a variety of demographic variables. (Contains 1 figure, 5 tables, and 58 references.) (Author/SLD)

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Running head: CHARACTERISTICS OF EFFECTIVE TEACHERS

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# Students' Perceptions of Characteristics of Effective College Teachers

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Abstract

Virtually all college teachers are required or expected to administer to their students some type of course evaluation instrument at one or more points during each course. These evaluation measures are based on what faculty and administrators consider to be characteristics of effective college teaching, with little or no input from students. Although recent research has documented what college students think are attributes of effective primary and secondary school teachers, scant information exists about what students perceive to be characteristics of effective college teachers. Thus, this qualitative study used a multi-stage concurrent mixed-methodological analysis to examine students' perceptions of characteristics of effective college teachers as a function of several demographic variables (e.g., students' gender, age, year of study, major). Participants were 912 undergraduate and graduate students from various academic majors enrolled at a university in a mid-southern state. In order of endorsement level, a phenomenological analysis revealed the following nine characteristics that students considered to reflect effective college teaching: student-centered (58.88%), knowledgeable of subject matter (44.08%), professional (40.79%), enthusiastic about teaching (29.82%), effective communicator (23.46%), accessible (23.25%), competent instructor (21.82%), fair and respectful (21.60%), and provider of adequate performance feedback (5.04%). These themes were related to a variety of demographic variables.

## Students' Perceptions of Characteristics of Effective College Teachers

In this era of standards and accountability, institutions of higher learning have exacerbated their use of student rating scales as an evaluative component of the teaching system (Seldon, 1993). Virtually all teachers at most universities and colleges are required to or are expected to administer to their students some type of course evaluation instrument at one or more points during each course offering. Typically, student rating instruments serve as formative and summative evaluations that are used by administrators and faculty for one or more of the following reasons: (a) to facilitate curricula decisions (i.e., improve teaching effectiveness), (b) to formulate personnel decisions related to tenure, promotion, merit pay, and the like, and (c) as a information source to be used by students as they select future courses and instructors (Marsh & Roche, 1993; Seldon, 1993).

Inclusion of students' perceptions as a means of assessing the effectiveness of college instruction has received influential support from the American Association of University Professors (1990). Moreover, some researchers have observed that a well-constructed rating instrument can provide useful information pertaining to teacher effectiveness (Cohen, 1981; Marsh, 1984). Other researchers have questioned the construct-related validity of rating instruments and their interpretability as an indicator of teaching effectiveness and the integrity of students' responses as factors shaping personnel decisions related to faculty tenure and promotion (Braxton & Del Favero, 2002; Obenchain, Abernathy, & Wiest, 2001; Sheehan, 1975).

Despite the mixed interpretability of student rating scales, colleges and universities continue to utilize students' ratings and interpret students' responses as reliable and valid

indices of teaching effectiveness (Seldin, 1999). Given the likelihood that colleges and universities will continue to use student ratings as an evaluative measure of teaching effectiveness, it is surprising that there has been limited systematic inquiry that examines students' perceptions regarding characteristics of effective college teachers. Therefore, the purpose of this study was to examine graduate and undergraduate students' perceptions of characteristics of effective college teaching. In addition, this study examined the relationship between students' perceptions and specific student demographics and background variables (e.g., gender, age, year of study, major).

## Review of Related Literature

According to Good and Brophy (1994), effective teaching is synonymous with active teaching and it is exemplified by teachers who individualize instruction, maximize instructional time, and create opportunities for students to apply skills and concepts. In addition, effective teachers ask questions requiring higher-order problem solving skills, convey high expectations, monitor student performance, and provide relevant feedback and reinforcement (Berliner, 1985; Cotton, 1995). Personal traits that have been associated with efficacious teachers include knowledge of subject content, flexibility, enthusiasm in their delivery of instruction, and strong classroom management skills (Demmon-Berger, 1986). With respect to primary and secondary classrooms, the American Association of School Administrators (AASA) characterized qualities associated with effective teachers into two categories: (a) management and instructional techniques and (b) personal characteristics (Demmon-Berger, 1986).

Although research has documented an array of variables that are considered characteristics of effective teaching, the bulk of this research base has used measures that

were developed from the perspectives of researchers, faculty, and administrators--not from the students' perspectives. For example, in order to obtain information about students' perspectives, Witcher, Onwuegbuzie, and Minor (2001) assessed preservice students' perceptions ($n$ = 219) about characteristics of effective teachers in the context of primary and secondary classroom settings. A qualitative analysis of the questionnaire data revealed the following six themes presented in descending order of endorsement: student-centeredness (79.5%), enthusiasm for teaching (40.2%), ethicalness, (38.8%), classroom and behavior management (33.3%), teaching methodology (32.4%), and knowledge of subject (31.5%). Further, using mixed-methodological data analysis techniques, the researchers found that preservice teachers who are female, junior, and of minority status, in contrast to their counterparts, tended to endorse more strongly the teacher characteristics of ethical behavior and teaching methodology. However, these students tended to endorse knowledge of subject and classroom and behavior management to a lesser degree. A follow-up study conducted by Minor, Onwuegbuzie, Witcher, and James (2002) revealed the following seven themes presented in descending order of endorsement: student-centeredness (55.2%), classroom and behavior management (33.6%) competent instructor (33.6%), ethicalness, (29.9%), enthusiasm for teaching (23.9%), knowledge of subject (19.4%), and professionalism (15.7%). In addition, these researchers found a gender effect; specifically, more males than females endorsed the theme of classroom and behavior management in their characterization of effective teachers.

Until now, the primary focus of research assessing teaching evaluations as a measure of effective teaching in higher education has been the relationship between

teacher behavior and student achievement (Feldman, 1989; Murray, 1991). Two types of teacher behaviors, organization/planning of course content and expressiveness/enthusiasm, have been found to enhance college students' learning behaviors such as attention to salient course material, amount of course work completed, and motivational levels--thereby leading to increased student achievement (Feldman, 1989; Murray, 1991, 1997; Perry, 1997a). Other teacher behaviors that have been found to elevate college students' learning behaviors are maintaining eye contact during lecture and interactions and the use of relevant humor, both of which also have positive effects on students' achievement levels (Perry, 1997a, 1997b; Ziv, 1988).

Ramsden, Margetson, Martin, and Clark (1995), in their comprehensive review of the literature, identified the following teacher characteristics as being representative of effective college teaching: reflective, enthusiastic, promoting student understanding of course content rather than superficial coverage, respectful toward students, goal-oriented, utilizing adaptive teaching techniques, and implementing effective assessment measures. Using students' perspectives as their data source, Crumbley, Henry, and Kratchman (2001) reported that undergraduate and graduate students ($n$ = 530) identified the following instructor traits that were likely to impact positively students' evaluations of their college instructor: teaching style (88.8%), presentation skills (89.4%), enthusiasm (82.2%), preparation and organization (87.3), and fairness related to grading (89.8%). Results also indicated that graduate students, in contrast to undergraduate students, placed stronger emphasis on a structured classroom environment. Factors likely to lower students' evaluations were associated with students' perceptions that the content taught was insufficient to achieve the expected grade (46.5%), being asked embarrassing questions

by the instructor (41.9%), and if the instructor appeared inexperienced (41%). In addition, factors associated with testing (i.e., administering pop quizzes) and grading (i.e., harsh grading, notable amount of homework) were likely to lower students' evaluations of their instructors. Sheehan (1999) asked undergraduate and graduate psychology students attending a public university in the United States (US) to identify characteristics of effective teaching by responding to a survey instrument. Results of regression analyses indicated that the following variables predicted 69% of the variance in the criterion variable of teacher effectiveness: informative lectures, tests, papers evaluating course content, instructor preparation, interesting lectures, and degree that the course was perceived as challenging.

More recently, Spencer and Pedhazur Schmelkin (2002) found that students representing sophomores, juniors, and seniors attending a private US university perceived effective teaching as characterized by college instructors' personal characteristics: demonstrating concern for students, valuing student opinions, clarity in communication, and openness toward varied opinions. Greimel-Fuhrmann and Geyer's (2003) evaluation of interview data indicated that undergraduate students' perceptions of their instructors and the overall instructional quality of the courses were influenced positively by teachers who provided clear explanations of subject content, were responsive to students' questions and viewpoints, and used a creative approach toward instruction beyond the scope of the course textbook. Other factors impacting students' perceptions included teachers demonstrating a sense of humor and maintaining a balanced or fair approach toward classroom discipline. Results of an exploratory factor analysis identified subject-oriented teacher, student-oriented teacher, and classroom management as factors that accounted for 69% of the variance in students' global ratings of their instructors (i.e., " is a good

teacher" and "I am satisfied with my teacher") and global ratings concerning student acquisition of domain-specific knowledge. Adjectives defining a subject-oriented teacher were (a) providing clear explanations, (b) repeating information, and (c) presenting concrete examples. A student-oriented teacher was defined as student friendly, patient, and fair. Classroom management was defined as maintaining consistent discipline and effective time management.

This current study replicates and extends the work of Witcher et al. (2001) and Minor et al. (2002). It was hoped by investigating what college students believe to be attributes of effective college teachers, findings from the current investigation would contribute to the extant literature and provide information useful for developing more effective college courses and faculty evaluation measures.

## Method

### *Participants*

Participants were 912 college students who were attending a mid-size university in a mid-southern state. The sample size represented 10.66% of the student body at the university where the study took place. These students were enrolled in 68 degree programs (e.g., education, mathematics, history, sociology, dietetics, journalism, nursing, pre-pharmacy, pre-medical). The majority of the sample was female (74.3%). With respect to ethnicity, the respondents comprised Caucasian-American (85.4%), African-American (11.0%), Asian-American (1.0%), Hispanic (0.4%), Native-American (0.9%), and other (1.3%). Ages ranged from 18 to 58 years ($M$ = 23.00, $SD$ = 6.26). With regard to level of study, 77.04% represented undergraduate students. A total of 76 students were preservice teachers. The sample members had taken an average of 32.24 ($SD$ =

41.14) credit hours, with a mean grade point average (gpa) of 2.80 (*SD* = 2.29) on a 4-point scale. Finally, the sample members' number of offspring ranged from 0 to 6 (*M* = 0.32, *SD* = 0.84).

*Instruments and Procedure*

All participants were administered a questionnaire during class sessions asking them to identify, to rank, and to define between three and six characteristics that they believed excellent college instructors possess or demonstrate. This instrument also extracted the following demographic information: gender, ethnicity, age, major, year of study, number of credit hours taken, gpa, teacher status, and whether the respondent was a parent of a school-aged child. The instrument, which took approximately 15 minutes to complete, was administered in classes over a 5-day period.

*Analysis*

A sequential mixed-methodological analysis, similar to that described by Witcher et al. (2001) and Minor et al. (2002), was undertaken to analyze the data. Specifically, a sequential qualitative-quantitative mixed analysis (Onwuegbuzie & Teddlie, 2003; Tashakkori & Teddlie, 1998) was utilized. This analysis, which incorporated both inductive and deductive reasoning, involved the qualitative and quantitative data analytic techniques in a sequential manner, commencing with qualitative analyses, followed by quantitative analyses that built on the qualitative analyses. Utilizing Greene, Caracelli, and Graham's (1989) framework, the purpose of the mixed-methodological analysis was *development*, in which the results from one data-analytic method informed the use of the other method. More specifically, the goal of the SMMA was typology development (Caracelli & Greene, 1993).

The sequential qualitative-quantitative mixed analysis consisted of four stages. The first stage involved a phenomenological mode of inquiry (i.e., exploratory stage) to analyze the students' responses regarding their perceptions of characteristics of effective college teachers (Goetz & Lecompte, 1984). The goal of the phenomenological method is to understand phenomena from the perspective of those being studied (Goetz & Lecompte, 1984). Phenomenological analyses are generative, inductive, and constructive because they require the inquirer(s) to *bracket* or suspend all preconceptions (i.e., *epoche*) in order to minimize bias (Moustakas, 1994). Thus, the researchers were careful not to form any *a priori* hypotheses or expectations with respect to students' perceptions of effective college instructors.

The phenomenological analysis undertaken in the present study involved the methodology of *reduction* (Creswell, 1998). That is, reducing the qualitative data "sharpens, sorts, focuses, discards, and organizes data in such a way that 'final' conclusions can be drawn and verified" (Miles & Huberman, 1994, p. 11), while retaining the context in which these data occurred (Onwuegbuzie & Teddlie, 2003). Specifically, a modification of Colaizzi's (1978) phenomenological analytic methodology was utilized that contained five procedural steps. These steps were as follows: (a) all the students' words, phrases, and sentences were read in order to obtain a feeling for them; (b) these students' responses were then *unitized* (Glaser & Strauss, 1967); (c) these units of information were then used as the basis for extracting a list of nonrepetitive, nonoverlapping significant statements (i.e., *horizonalization* of data; Creswell, 1998), with each statement given equal weight. Units were eliminated that contained the same or similar statements such that each unit corresponded to a unique instructional

characteristic; (d) meanings were formulated by elucidating the meaning of each significant statement (i.e., unit); and (e) clusters of themes were organized from the aggregate formulated meanings, with each cluster consisting of units that were deemed similar in content, thereby cluster representing a unique emergent theme (i.e., *method of constant comparison*; Glaser & Strauss, 1967; Lincoln & Guba, 1985). These clusters of themes were referred back to the original descriptions in order to verify them. This was undertaken in order to ensure that no original descriptions made by the students were unaccounted for by the cluster of themes, and that no cluster contained units that were not in the original descriptions. These themes were created *a posteriori* (Constas, 1992).

This four-step method of analysis was utilized to identify a number of themes pertaining to students' perceptions of characteristics of effective college instructors. The locus of typology development was *investigative*, stemming from the intellectual constructions of the researchers (Constas, 1992). The source for naming of categories also was investigative (Constas, 1992). *Double coding* (Miles & Huberman, 1994) was used for categorization verification, which took the form of inter-rater reliability. Consequently, the verification component of categorization was *empirical* (Constas, 1992). Specifically, two of the researchers independently coded the students' responses and determined the emergent themes. These themes were compared and the rate of agreement determined (i.e., inter-rater reliability). Because a quantitative technique (i.e., inter-rater reliability) was employed as a validation technique, in addition to being empirical, the verification component of categorization was *technical* (Constas, 1992). The verification approach was accomplished *a posteriori* (Constas, 1992).

An additional method of inter-rater reliability, namely peer debriefing, was utilized to legitimize the data interpretations. Peer debriefing provides a logically-based external evaluation of the research process (Glesne & Peshkin, 1992; Lincoln & Guba, 1985; Maxwell, 1996; Merriam, 1988; Newman & Benz, 1998). The ("disinterested") peer selected was a college professor from another institution who had no stake in the findings and interpretations and who served as "devil's advocate," in an attempt to keep the data interpretations as "honest" as possible (Lincoln & Guba, 1985, p. 308). The second stage of the sequential qualitative-quantitative mixed analysis involved utilizing descriptive statistics (i.e., exploratory stage) to analyze the hierarchical structure of the emergent themes (Onwuegbuzie & Teddlie, 2003). Specifically, each theme was *quantitized* (Tashakkori & Teddlie, 1998). That is, for each participant, a score of "1" was assigned for a theme if it represented at least one of the six stated characteristics; otherwise, a score of "0" was given for that theme. In other words, for each sample member, each theme was quantitized either to a score of "1" or a "0" depending on whether it was represented by that student. This dichomotization led to the formation of an *inter-respondent matrix* (i.e., *student x theme matrix*) (Onwuegbuzie, in press; Onwuegbuzie & Teddlie, 2003). Both matrices consisted only of 0s and 1s. This quantitizing of themes led to the computation of what Onwuegbuzie (in press) coined as *manifest effect sizes* (i.e., effect sizes pertaining to observable content). The following type of manifest effect size was computed. By calculating the frequency of each theme from the inter-respondent matrix, percentages were computed to determine the prevalence rate of each theme. These prevalence rates provided *frequency effect size* measures (Onwuegbuzie, in press).

The third stage of the sequential qualitative-quantitative mixed analysis involved the use of the aforementioned inter-respondent matrix to conduct an exploratory factor analysis to determine the underlying structure of these themes (i.e., exploratory stage). This factor analysis determined the number of factors underlying the themes. These factors, or latent constructs, yielded *meta-themes* (Onwuegbuzie, in press) such that each meta-theme contained one of more of the emergent themes. The *trace*, or proportion of variance explained by each factor after rotation, served as a *latent* effect size for each meta-theme (Onwuegbuzie, in press). Further, a manifest effect size was computed for each meta-theme by determining the combined frequency effect size for themes within each meta-theme (Onwuegbuzie, in press). By determining the hierarchical relationship among the themes, in addition to being empirical and technical, the verification component of categorization was *rational* (Constas, 1992).

The fourth and final stage of the sequential qualitative-quantitative mixed analysis (i.e., confirmatory analyses) involved the determination of antecedent correlates of the emergent themes that were extracted in Stage 1 and quantitized in Stage 2. This phase utilized the inter-respondent matrix to undertake (a) a series of Fisher's Exact tests to determine which demographic variables were related to each of the themes; and (b) a canonical correlation analysis to examine the multivariate relationship between the themes and the demographic variables. Specifically, a canonical correlation analysis (Cliff & Krus, 1976; Darlington, Weinberg, & Walberg, 1973; Thompson, 1980, 1984) was used to determine this multivariate relationship. For each significant canonical coefficient, standardized canonical function coefficients and structure coefficients were computed. These coefficients served as *inferential-based effect sizes* (Onwuegbuzie, in press).

## Results

### *Stage 1 and Stage 2 Analyses*

The participants listed a total of 2,991 unique characteristics of effective college teachers. This represented a mean of 3.28 unique themes per sample member. Table 1 presents the themes that emerged from the students' responses. This table reveals that the following nine themes surfaced from the students' responses: student-centered, knowledgeable of subject matter, professional, enthusiastic about teaching, effective communicator, accessible, competent instructor, fair and respectful, and provider of adequate performance feedback.

The prevalence rates of each theme (i.e., (manifest) frequency effect sizes; Onwuegbuzie, in press; Onwuegbuzie & Teddlie, 2003) also are presented in Table 1. Interestingly, student-centered was the most endorsed theme, with nearly 80% of the sample providing a response that fell into this category. Examples of student-centered include "willingness to listen to students," "compassionate," and "caring"; descriptors of knowledgeable of subject matter include descriptors such as "intelligent," and "knowledgeable"; examples of professional are "reliable," "self-discipline," "diligence," and "responsible"; words that represent enthusiastic about teaching include "encouragement," "enthusiasm," and "positive attitude"; words that describe effective communicator are "good communication," "speaking clearly," and "fluent English"; examples that characterize accessible include "open door policy," "available," and "around when students need help"; competent instructor includes descriptors such as "flexible," "organized," and "well prepared for class"; fair and respectful is presented by words such as "consistency," "fair evaluator," and "respectful"; finally, examples that depict provider of

adequate performance feedback include "quick turnaround," "understandable," and "informative."

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Insert Table 1 about here

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*Stage 3 Analysis*

An exploratory factor analysis was used to determine the number of factors underlying the nine themes. This analysis was conducted because it was expected that two or more of these themes would cluster together. Specifically, a maximum likelihood factor analysis was used. This technique, which gives better estimates than does principal factor analysis (Bickel & Doksum, 1977), is perhaps the common method of common factor analysis (Lawley & Maxwell, 1971). As recommended by Kieffer (1999) and Onwuegbuzie and Daniel (2003), the correlation matrix was used to undertake the factor analysis. An orthogonal (i.e., varimax) rotation was employed because of the expected small correlations among the themes. This analysis was used to extract the latent constructs. As conceptualized by Onwuegbuzie (in press), these factors represented *meta-themes*.

The eigenvalue-greater-than-one rule, also known as K1 (Kaiser, 1958), was utilized to determine an appropriate number of factors to retain. This technique resulted in four factors (i.e., meta-themes). The "scree" test, which represents a plot of eigenvalues against the factors in descending order (Cattell, 1966; Zwick & Velicer, 1986) also suggested that four factors be retained. This four-factor solution is presented in Table 2. Using a cutoff correlation of 0.3, recommended by Lambert and Durand (1975), as an

acceptable minimum loading value, Table 2 reveals that the following themes loaded significantly on the first factor: student-centered and professional; the following themes loaded on the second factor: accessible, effective communicator, and provider of adequate performance feedback; the following themes loaded on the third factor: competent instructor and fair and respectful; and the following themes loaded on the fourth factor: enthusiastic about teaching and knowledgeable of subject matter. The first meta-theme (i.e., Factor 1) was labeled *dedicated*. The second meta-theme was termed *accessible and communicative*. The third meta-theme represented *fair and competent*. Finally, the fourth meta-theme denoted *knowledgeable and enthusiastic*. Interestingly, within the *dedicated* meta-theme (i.e., Factor 1), the student-centered and professional themes were negatively related. Also, within the *fair and competent* meta-theme (i.e., Factor 3), the competent instructor and fair and respectful themes also were inversely related. The thematic structure is presented in Figure 1. This figure illustrates the relationships among the themes and meta-themes arising from students' perceptions of the characteristics of effective college instructors.

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Insert Table 2 about here

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Insert Figure 1 about here

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An examination of the *trace* (i.e., the proportion of variance explained, or eigenvalue, after rotation; Hetzel, 1996) revealed that the *dedicated* meta-theme (i.e.,

Factor 1) explained 14.44% of the total variance, the *accessible and communicative* meta-theme (i.e., Factor 2) accounted for 13.79% of the variance, the *fair and competent* meta-theme (i.e., Factor 3) explained 12.86% of the variance, and the *knowledgeable and enthusiastic* meta-theme (i.e., Factor 4) accounted for 11.76% of the variance. These four meta-themes combined explained 52.86% of the total variance. Interestingly, this proportion of total variance explained is consistent with that typically explained in factor solutions (Henson, Capraro, & Capraro, 2001; Henson & Roberts, in press). Further, this total proportion of variance represents a *latent effect size*, which can be considered large. The manifest effect sizes associated with the four meta-themes (i.e., proportion of characteristics identified per meta-themes) were as follows: *dedicated* (81.0%), *accessible and communicative* (43.7%), *fair and competent* meta-theme (41.1%), and *knowledgeable and enthusiastic* (59.6%).

*Stage 4 Analysis*

A series of Fisher's Exact tests was used to correlate each of the nine themes with each of the following four demographic variables: gender, race (Caucasian-American vs. minority), level of study (undergraduate vs. graduate), and preservice teacher status (i.e., preservice teacher vs. non- preservice teacher). Each demographic variable was treated as a family, such that the Bonferroni adjustment was applied for each demographic variable to control for familywise error. With respect to gender, females (62.3%) tended to place statistically significantly more weight on student-centeredness as a measure of instructional effectiveness than did males (49.4%). The effective size associated with this relationship, as measured by Cramer's *V*, was .12. Further, females were 1.70 times (95% confidence interval [CI] = 1.26, 2.29) more likely than were males to endorse

student-centeredness. However, gender was not statistically significantly related to any other theme. With respect to race, Caucasian-American students (31.6%) were statistically significantly more likely to endorse enthusiastic about teaching as a characteristic of effective instruction than were minority students (19.5%). Cramer's *V* effective size was .09. More specifically, Caucasian-American students were 1.61 times (95% CI = 1.12, 2.32) more likely than were males to endorse being enthusiastic about teaching.

With respect to level of study, graduate students (59.6%) were statistically significantly more likely to deem knowledgeable of subject matter to typify effective instruction than were undergraduate students (39.7%). Cramer's *V* effective size was .17. Moreover, these graduate students were 2.24 times (95% CI = 1.64, 3.08) more likely than were males to endorse knowledgeable of subject matter. Similarly, graduate students (32.2%) were statistically significantly more likely to consider competent instruction to exemplify effective instruction than were undergraduate students (18.9%). Cramer's *V* effective size was .14. These graduate students were 2.03 times (95% CI = 1.44, 2.88) more likely than were males to endorse competent instruction.

With regard to student teacher status, preservice teachers (40.8%) were statistically significantly less likely to endorse student-centeredness as being indicative of effective instruction than were the other students (60.7%). Cramer's *V* effective size was .11. Moreover, preservice teachers were 2.24 times (95% CI = 1.39, 3.61) less likely than were other students to endorse student-centeredness. Conversely, preservice teachers (44.7%) were statistically significantly more likely to deem fairness and respectfulness to characterize effective instruction than were the remaining students (19.5%). Cramer's *V*

effective size was .17. These teacher candidates were 2.29 times (95% CI = 1.72, 3.05) more likely than were males to endorse fairness and respectfulness. Similarly, preservice teachers (23.3%) were statistically significantly more likely to endorse competent instruction as representing effective instruction than were the other students (6.6%). Cramer's *V* effective size was .11. These preservice teachers were 4.30 times (95% CI = 1.71, 10.81) more likely than were males to endorse competent instruction.

A series of point-biserial correlation coefficients was conducted to correlate each of the nine themes with each of the following four demographic variables: age, gpa, number of credit hours taken, and number of offspring. After applying the Bonferroni adjustment to control for familywise error, only three associations were statistically significant: (a) older students were more likely to endorse professionalism as an effective instructional characteristic ($r = .12$, $p < .001$). Also, students with the most credit hours were more likely to endorse fairness and respectfulness ($r = .14$, $p < .001$) and were less likely to endorse instructional competence ($r = -.09$, $p < .001$). However, all three correlations were small.

A canonical correlation analysis was undertaken to examine the relationship between the nine themes and the eight demographic variables. The nine themes were treated as the dependent set of variables, whereas the following variables were utilized as the independent multivariate profile: gender, race, level of study, student teacher status, age, gpa, number of credit hours taken, and number of offspring. The number of canonical functions (i.e., factors) that can be generated for a given dataset is equal to the number of variables in the smaller of the two variable sets (Thompson, 1980, 1984, 1988,

1990). Because nine themes were correlated with eight independent variables, eight canonical functions were generated.

The canonical analysis revealed that the eight canonical correlations combined were statistically significant ($p < .0001$). Also, when the first canonical root was excluded, the remaining seven canonical roots were statistically significant ($p < .0001$; Canonical $R_{c1} = .31$). Similarly, when the first and second canonical roots were excluded, the remaining six canonical roots were statistically significant ($p < .0001$; Canonical $R_{c1} = .23$). Further, when the first three canonical roots were excluded, the remaining five canonical roots were statistically significant ($p < .001$; Canonical $R_{c1} = .21$). However, when the first four canonical roots were excluded, the remaining four canonical roots were not statistically significant. In fact, removal of subsequent canonical roots did not lead to statistical significance. Together, these results suggested that the first three canonical functions were statistically significant and practically significant (Cohen, 1988), but the remaining five roots were not statistically significant.

Data pertaining to the first canonical root are presented in Table 3. This table provides both standardized function coefficients and structure coefficients. Using a cutoff correlation of 0.3 (Lambert & Durand, 1975), the standardized canonical function coefficients revealed that student-centered, professional, and competent instructor made important contributions to the set of themes--with student-centered and professional being the major contributors. With respect to the demographic set, gender, level of study, and preservice teacher status made noteworthy contributions. The structure coefficients pertaining to the first canonical function revealed that student-centered, fair and respectful, and competent instructor made important contributions (i.e., were practically

significant) to the first canonical variate. The square of the structure coefficient indicated that these variables explained 20.3%, 20.3%, and 33.6% of the variance, respectively. With regard to the demographic cluster, preservice teacher status made the strongest contribution, followed by level of study, number of credit hours, and gender. These variables explained 65.6%, 34.8%, 18.5%, and 9.0% of the variance, respectively.

Comparing the standardized and structure coefficients implicated professional as a suppressor variable because the standardized coefficients associated with this variable was large, whereas the corresponding structure coefficient was relatively small (Onwuegbuzie & Daniel, 2003). Suppressor variables are variables that assist in the prediction of dependent variables due to their correlation with other independent variables (Tabachnick & Fidell, 1996).

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Insert Table 3 about here

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Table 4 presents data pertaining to the second canonical root, containing both standardized function coefficients and structure coefficients. The standardized canonical function coefficients revealed that enthusiastic about teaching and knowledgeable of subject matter made important contributions to the set of themes--with knowledgeable of subject matter being the major contributor. With respect to the demographic set, gender, age, level of study, and number of credit hours made noteworthy contributions. The structure coefficients pertaining to the second canonical function revealed that enthusiastic about teaching (21.2% explained variance), student-centered (11.6% explained variance), and knowledgeable of subject matter (49.0% explained variance)

made important contributions. With regard to the demographic cluster, level of study (36.0% explained variance) made the strongest contribution, followed by age (34.8% explained variance), number of credit hours (13.7% explained variance), and number of offspring (11.6% explained variance). Comparing the standardized and structure coefficients implicated gender as a suppressor variable because the standardized coefficient associated with this variable was large, whereas the corresponding structure coefficient was relatively small.

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Insert Table 4 about here

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Table 5 presents data pertaining to the third canonical root, containing both standardized function coefficients and structure coefficients. The standardized canonical function coefficients revealed that enthusiastic about teaching, student-centered, professional, fair and respectful, knowledgeable of subject matter, and competent instructor made important contributions to the set of themes--with enthusiastic about teaching and competent instructor being the major contributors. With respect to the demographic set, age, race, level of study, and preservice teacher status made similarly noteworthy contributions. The structure coefficients pertaining to the second canonical function revealed that enthusiastic about teaching (20.2% explained variance), student-centered (16.0% explained variance), professional (9.6% explained variance), fair and respectful (10.9% explained variance), knowledgeable of subject matter (10.2% explained variance), and competent instructor (16.8% explained variance) made important contributions. With regard to the demographic cluster, race (30.0% explained

variance) made the strongest contribution, followed by level of study (15.2% explained variance), number of offspring (15.2% explained variance), and age (10.2% explained variance). Comparing the standardized and structure coefficients implicated preservice teacher status as a suppressor variable because the standardized coefficients associated with this variable was large, whereas the corresponding structure coefficient was relatively small.

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Insert Table 5 about here

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In sum, the results of the canonical correlation analysis suggest that gender, race, age, level of study, preservice teacher status, and number of offspring are related in some combination to enthusiastic about teaching, student-centered, professional, fair and respectful, knowledgeable of subject matter, and competent instructor. Of the demographic variable set, only gpa, did not appear to play a role in the prediction of the themes. On the criterion set, the following three variables consistently were not involved in any of the three multivariate relationships: accessible, effective communicator, and provider of adequate feedback.

## Discussion

The purpose of the present study was to determine students' perceptions about the characteristics of effective college instructors, as well as to examine factors that may have influenced their responses. Using mixed-methodological data analysis techniques and a sample size (10.7% of student body) that facilitated generalizations, the perceptions held by college students were found to be multidimensional in nature.

Specifically, perceptions were identified that led to the following nine themes: student-centered, knowledgeable of subject matter, professional, enthusiastic about teaching, effective communicator, accessible, competent instructor, fair and respectful, and provider of adequate performance feedback.

Although the context is primary and secondary schools, the AASA two-element conceptualization of effective teachers can be used to classify these nine themes. The AASA concluded that characteristics of effective teachers tended to fall into two categories: (a) management and instructional techniques and (b) personal characteristics (Demmon-Berger, 1986). Specifically, the three themes (i.e., student-centered, enthusiastic about teaching, fair and respectful) reflect the category of personal characteristics, whereas the remaining six categories (i.e., knowledgeable of subject matter, professional, effective communicator, accessible, competent instructor, provider of adequate performance feedback) can be classified as representing management and instructional techniques. Comparing the results of the current study to the AASA's conceptualization revealed that a similarly high proportion of the present sample of college students noted one or more characteristics representing the personal characteristic domain (80.5%) as did those who rated a trait representing management and instructional techniques (88.8%). Furthermore, McNemar's test indicated no relationship ($p > .05$) between AASA's two response categories. That is, college students who rated a personal characteristic as being evidence of an effective teacher were not more or less likely to rate a management and instructional technique. This suggests that personal characteristics and management and instructional techniques appear to represent constructs that are somewhat independent.

The finding that student-centered represented descriptors that received the greatest endorsement is consistent with the results of both Witcher et al. (2001) and Minor et al. (2002), who studied the perceptions of preservice teachers. Witcher et al. reported an endorsement rate of 79.5% for the student-centered theme, and Minor et al. documented a 55.2% prevalence rate. In the present investigation, 58.9% of the sample members provided one of more descriptors that typified a student-centered disposition. All three proportions, which represent very large effect sizes, suggest strongly that student-centeredness is considered to be the most important characteristic of effective instruction for teachers at the elementary, secondary, and post-secondary levels. Therefore, as was the case for preservice teachers (Minor et al., 2002), college students in the present study, overall, deem the *interpersonal context* as the most important indicator of effective instruction. The present study's finding that student-centered represented descriptors that received the strongest student endorsement is consistent with the results of Greimel-Fuhrmann and Geyer's (2003) study that identified a student-oriented teacher (i.e., student friendly, patient, and fair) as an attribute of an effective college teacher. The characteristics of presentation skills, enthusiasm, fairness in grading (Crumbley et al., 2001) and clarity in communication (Spencer et al., 2002) are similar to this present study's themes of effective communicator, enthusiastic, and fair and respectful.

Witcher et al. (2001) identified the following six characteristics of effective teaching perceived by preservice teachers: student-centeredness, enthusiastic about teaching, ethicalness, classroom and behavior management, teaching methodology, and knowledge of subject. Minor et al. (2002), in a follow-up study, replicated these six

characteristics and found an additional characteristic, namely, professional. Comparing and contrasting these two sets of findings with the present results reveals some interesting similarities and differences. Specifically, in the current investigation, the following themes from the Witcher et al. and Minor et al. studies were directly replicated: student-centered, enthusiastic about teaching, and knowledge of subject. Also, the professional theme identified in Minor et al.'s inquiry was directly replicated. In addition, the fair and respectful and competent instructor themes that emerged in the present investigation are similar to the ethicalness and teaching methodology themes identified in these previous studies.

Therefore, only the classroom and behavior management theme identified in these previous studies was not replicated. However, this is not surprising, assuming that college instructors do not have the level of discipline problems experienced by public school teachers, particularly those in secondary schools. Indeed, lack of classroom discipline often is cited as the primary problem facing public school teachers. For example, according to the annual Gallup Polls of the Public's Attitudes Toward the Public Schools, lack of discipline was identified as the most serious problem facing schools for 15 out of the 27 years between 1969 and 1993 (Parkway & Stanford, 1998). Further, the Phi Delta Kappa/Gallup 31st Annual Poll reported that the two most important challenges confronting schools are (a) lack of discipline/more control, and (b) fighting/violence/gangs (Rose & Gallup, 1998). It should not be surprising then that preservice teachers recognize the importance of classroom and behavior management, especially because the ability to address discipline problems in public schools can determine how effective a teacher is in creating an environment that is conducive to learning (Alderman, 2001). In

the college setting, college professors teach students who are not compelled by law to receive an education. Moreover, these students and/or their families typically are paying for their own education and perceive their degrees as gatekeepers for their career aspirations. Thus, there is less incentive for college students deliberately to cause discipline problems. Also, college students likely are more emotionally mature than are elementary and secondary school students. As such, college instructors are not faced with the levels of discipline problems that permeate many elementary and secondary schools. This may explain why the classroom and behavior management theme was not replicated in the current inquiry.

Three new themes emerged in the present study: effective communicator (23.46% endorsement rate), provider of adequate feedback (5.04% endorsement rate), and accessible (23.25% endorsement rate). These themes have intuitive appeal, bearing in mind the nature of higher education. The emergence of the effective communicator and provider of adequate feedback themes likely resulted from the fact that the material covered and homework assigned at the college level can be extremely complex. As such, many students need clear, explicit instructions and detailed feedback. In public schools, classroom teachers are more accessible as teachers are on site for most if not all of the school day. In contrast, college instructors are expected to engage actively in research and service activities that must be undertaken outside their offices. As such, the amount of time that instructors are available for students in their offices (i.e., office hours) varies from department to department, college to college, and university to university. In fact, the requirements imposed by administrators for office hours vary. Some institutions have no office requirements for professors, whereas others impose a minimum of 10 office

hours per week on their faculty, such as the institution where the study took place. Furthermore, the majority of current undergraduate students work while enrolled in college--with a significant proportion working on a full-time basis (Cuccaro-Alamin & Choy, 1998; Horn, 1994). Thus, many students find it difficult to set up appointments with their instructors during the scheduled office hours. These factors may explain why accessibility was deemed a characteristic of effective teachers by nearly one-fourth of the sample members.

Interestingly, all three new emergent themes (i.e., effective communicator, provider of adequate feedback, accessible) loaded onto one factor, namely an *accessible and communicative* meta-theme, indicating that they belong to a set. Consistent with this conclusion, these were the only three themes that were not related to any of the demographic variables. Thus, future research should examine other factors that might predict these three variables. Variables that might be considered include cognitive variables (e.g., study habits), affective variables (e.g., anxiety, self-esteem), and personality variables (e.g., levels of social interdependence, locus of control).

In addition to the *accessible and communicative* meta-theme, three other meta-themes emerged: *dedicated*, comprising student-centered and professional; *fair and competent*, consisting of competent instructor and fair and respectful; and *knowledgeable and enthusiastic*, consisting of knowledgeable of subject matter and enthusiastic about teaching. The finding that within the *dedicated* meta-theme, the student-centered and professional themes were negatively related suggests that college students who were the most likely to endorse being student-centered as a characteristic of effective teaching tended to be the least likely to endorse being professional as an effective trait, and vice

versa. This result is interesting because it suggests that, to some extent, many students view student-centeredness and professionalism as lying on opposite ends of the continuum. It is possible that they have experienced teachers who give the impression of being the most professional because they exhibit traits such as efficiency, self-discipline, and responsibility, and, yet, at the same time, are least likely to display student-centered characteristics such as willingness to listen to students, compassion, and care. This should be the subject of future investigations.

Within the *fair and competent* meta-theme, the competent instructor and fair and respectful themes also were inversely related. In other words, students who deemed fair and respectful to represent characteristics of effective college instructors, at the same time, tended not to endorse competent instruction, and vice versa. Indeed, of the sample members who endorsed the fair and respectful theme, 89.3% did not endorse the competent instruction theme, yielding an odds ratio of 2.34 (95% CI = 1.53, 3.57). Unfortunately, it is beyond the scope of the present investigation to explain this finding. Thus, follow-up studies using qualitative techniques are needed.

The finding that gender, race, age, level of study, preservice teacher status, and number of offspring are related in some combination to enthusiastic about teaching, student-centered, professional, fair and respectful, knowledgeable of subject matter, and competent instructor suggests that individual differences exist with respect to students' perceptions of the characteristics of effective college teachers. Thus, in interpreting responses to items contained in teacher evaluation forms, administrators should consider taking into account the demographic profile of the underlying class. Unfortunately, this does not appear to be the current practice. According to Schmelkin, Spencer, and

Gellman (1997), many administrators unwisely aggregate responses for the purpose of summative evaluation and comparison with peers without taking into account the context in which the class was taught. For instance, the finding that female students tend to place more weight on student-centeredness than do male students, while replicating the findings of Witcher et al. (2001), suggests that a class with predominantly or exclusively female students, as often is the case in education courses, might scrutinize the instructor's degree of student-centeredness to a greater extent than might a class containing primarily males, as often is the case in courses involving the hard sciences. Similarly, a class containing mainly Caucasian-American students is more likely to assess the instructor's level of enthusiasm than is a class predominantly containing minority students (Minor et al., 2002).

The teacher evaluation form used at the college of education at the university where the study took place contains two parts. The first part consists of 10 5-point rating scale items that elicit students' opinions about their learning experiences, the instructor's ability, the syllabus, course outline, assignments, workload, and difficulty level. The second part contains 5-point Likert-format items, anchored by strongly agree and strongly disagree, in which students are requested to critique their instructors with respect to 17 attributes. Of the nine emergent themes, the following five were represented: professional, effective communicator, accessible, competent instructor, and provider of adequate performance feedback. Specifically, *professional* was represented by the following item: "The Instructor is punctual in meeting class and office hour responsibilities." *Effective communicator*, the most represented theme, consisted of the following items: (a) "Rate how well the syllabus, course outline, and other overviews

provided by the instructor helped you to understand the goals and requirements of the course"; (b) "Rate how well the assignments helped you learn"; (c) "My instructor's spoken English is..."; (d) "The instructor communicates the purpose of class sessions and instructional activities"; (e) "The instructor speaks clearly and audibly when presenting material"; (f) "The instructor uses examples and illustrations which help clarify the topic being discussed"; and (g) "The instructor clears up points of confusion." *Accessible* was represented by the following item: "The instructor provides the opportunity for assistance on an individual basis outside of class." *Competent instructor* was represented by the following items: (a) "How would you rate the instructor's teaching ability?" and (b) "Makes effective use of class time." Finally, *provider of adequate performance feedback* was represented by the following items: (a) "The instructor gives me regular feedback on how well I am doing in the course"; (b) "The instructor gives tests and assignments quickly enough to benefit me"; and (c) "The instructor, when necessary, suggests specific ways I can improve my performance in the course."

Four themes were not represented by any of the items in the teacher evaluation form. These were student-centered, knowledgeable of subject matter, enthusiastic about teaching, and fair and respectful. Interestingly, student-centered, knowledgeable of subject matter, and enthusiastic about teaching represent three of the most prevalent themes endorsed by the college sample. Therefore, there is a clear gap between what the developers of the teacher evaluation form consider to be characteristics of effective instructors and what students deem to be the most important traits. Moreover, this gap suggests that students' criteria for assessing college instructors may not be adequately represented in teacher evaluation forms; this might adversely affect students' ability to

critique their instructors in a comprehensive manner. Thus, even if the scores yielded by this teacher evaluation form are reliable, the score validity of the instrument is in serious doubt. In an era in which information gleaned from teacher evaluation forms is used to make decisions on faculty about tenure, promotion, and merit pay increases, this potential threat to validity is extremely disturbing and warrants further research.

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*Table 1*

*Themes Emerging from Students' Perceptions of the Characteristics of Effective College Instructors*

| Theme | Endorsement Rate (%) |
|---|---|
| Student-centered | 58.88 |
| knowledgeable of subject matter | 44.08 |
| Professional | 40.79 |
| Enthusiastic | 29.82 |
| Effective communicator | 23.46 |
| Accessible | 23.25 |
| Competent instructor | 21.82 |
| Fair and respectful | 21.60 |
| Provider of adequate performance feedback | 5.04 |

*Table 2*

*Summary of Themes and Factor Loadings from Maximum Likelihood (Varimax) Factor Analysis: Four-Factor Solution*

| | Factor Loadings[1] | | | | |
|---|---|---|---|---|---|
| Theme | 1 | 2 | 3 | 4 | Communality Coefficient |
| Student-centered | **-.76** | -.31 | .01 | -.18 | .71 |
| Professional | **.75** | -.16 | .01 | -.01 | .59 |
| Accessible | -.11 | **.64** | .25 | .01 | .48 |
| Effective communicator | .12 | **.51** | -.24 | .01 | .33 |
| Feedback provider | .01 | **.47** | .01 | -.32 | .10 |
| Competent instructor | .16 | -.15 | **-.72** | -.29 | .87 |
| Fair and respectful | .20 | -.15 | **.72** | -.34 | .70 |
| Enthusiastic about teaching | .01 | .01 | -.01 | **.72** | .52 |
| Knowlge. of subject matter | .01 | -.38 | .14 | **.55** | .47 |
| Trace | 1.24 | 1.20 | 1.17 | 1.15 | 4.77 |
| % variance explained | 14.44 | 13.79 | 12.86 | 11.76 | 52.86 |

[1]Coefficients in bold represent loadings with the largest effect size within each theme, using a cut-off loading of 0.3 recommended by Lambert and Durand (1975).

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*Table 3*

*Canonical Solution for First Function: Relationship Between Nine Themes and Selected Demographic Variables*

| Theme | Standardization Coefficient | Structure Coefficient | Structure$^2$ (%) |
|---|---|---|---|
| *Theme*: | | | |
| Student-centered | .25 | .14 | 2.0 |
| Professional | .70* | .45* | 20.3 |
| Accessible | .37* | .18 | 3.2 |
| Effective communicator | .23 | .04 | 0.2 |
| Feedback provider | .16 | .09 | 0.8 |
| Competent instructor | -.24 | -.45* | 20.3 |
| Fair and respectful | .27 | .16 | 2.6 |
| Enthusiastic about teaching | .25 | .09 | 0.8 |
| knowledgeable of subject matter | .67* | .58* | 33.6 |
| *Demographic Variable* | | | |
| Number of credit hours | -.01 | -.43* | 18.5 |
| gpa | .08 | .09 | 0.8 |
| age | -.09 | .05 | 0.3 |
| number of offspring | .07 | -.01 | 0.0 |
| preservice teacher status | .76* | .81* | 65.6 |
| level of student | .48* | .59* | 34.8 |
| gender | .33* | .30* | 9.0 |
| black | .03 | .03 | 0.1 |

*Loadings with the effect sizes larger than .3 (Lambert & Durand, 1975).

*Table 4*

*Canonical Solution for Second Function: Relationship Between Nine Themes and Selected Demographic Variables*

| Theme | Standardization Coefficient | Structure Coefficient | Structure$^2$ (%) |
|---|---|---|---|
| *Theme*: | | | |
| Student-centered | -.52* | -.46* | 21.2 |
| Professional | .28 | -.34* | 11.6 |
| Accessible | .24 | .29 | 8.4 |
| Effective communicator | .09 | .07 | 0.5 |
| Feedback provider | .21 | .17 | 2.9 |
| Competent Instructor | -.09 | -.05 | 0.3 |
| Fair and respectful | .15 | -.18 | 3.2 |
| Enthusiastic about teaching | .74* | .70* | 49.0 |
| knowledgeable of subject matter | .09 | .10 | 1.0 |
| *Demographic Variable* | | | |
| Number of credit hours | .60* | .37* | 13.7 |
| gpa | -.06 | -.03 | 0.1 |
| age | -.30* | .59* | 34.8 |
| number of offspring | .09 | .34* | 11.6 |
| preservice teacher status | -.07 | -.23 | 5.3 |
| level of student | .72* | .60* | 36.0 |
| gender | -.39* | .26 | 6.8 |
| black | .15 | .11 | 1.2 |

*Loadings with the effect sizes larger than .3 (Lambert & Durand, 1975).

*Table 5*

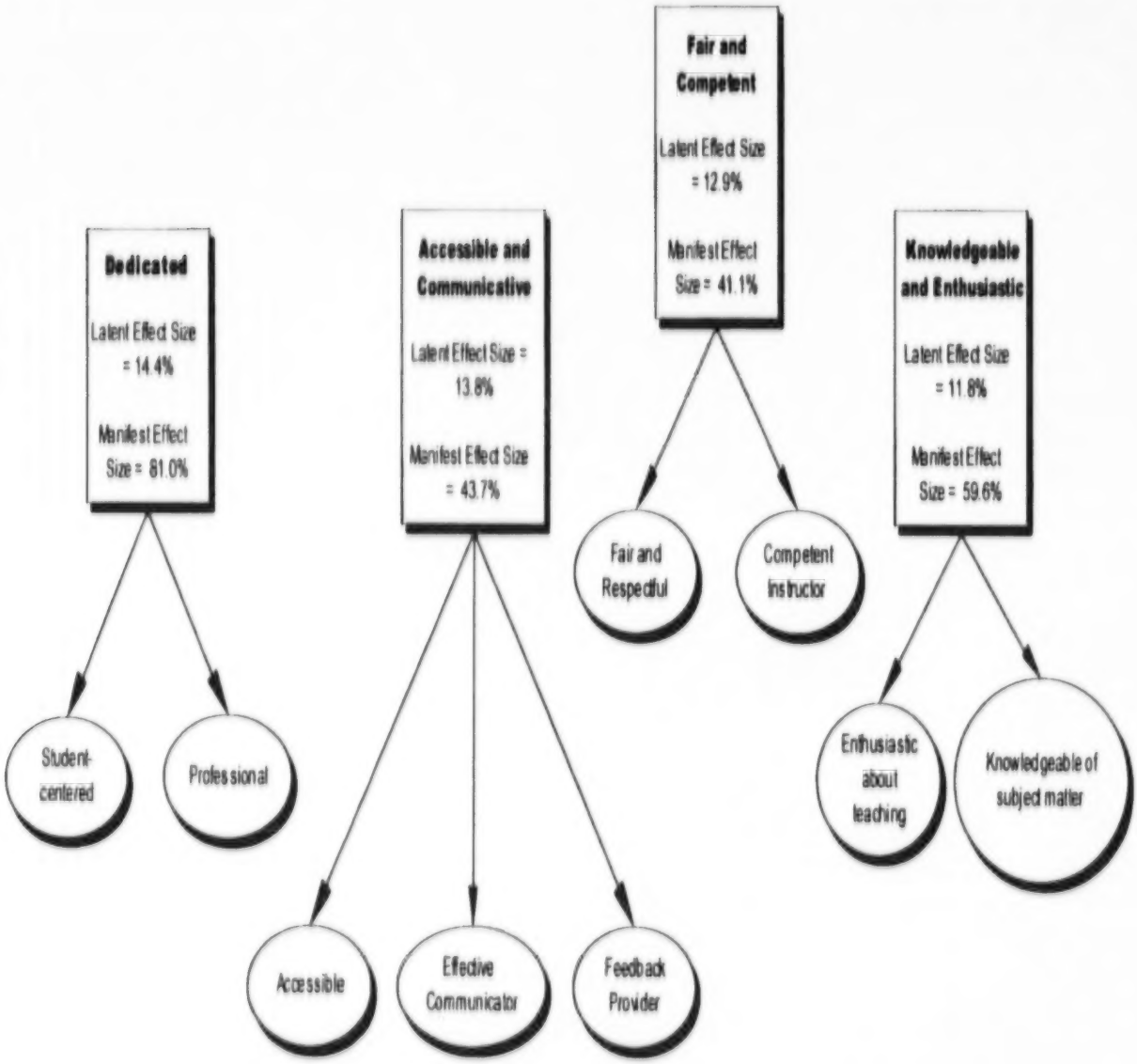
*Canonical Solution for Third Function: Relationship Between Nine Themes and Selected Demographic Variables*

| Theme | Standardization Coefficient | Structure Coefficient | Structure$^2$ (%) |
|---|---|---|---|
| *Theme*: | | | |
| Student-centered | -.47* | -.45* | 20.3 |
| Professional | .33* | .40* | 16.0 |
| Accessible | .40* | .31* | 9.6 |
| Effective communicator | .16 | .20 | 4.0 |
| Feedback provider | -.05 | .01 | 0.0 |
| Competent instructor | -.43* | -.33* | 10.9 |
| Fair and respectful | -.26 | -.21 | 4.4 |
| Enthusiastic about teaching | -.34* | -.32* | 10.2 |
| knowledgeable of subject matter | -.48* | -.41* | 16.8 |
| *Demographic Variable* | | | |
| Number of credit hours | .23 | .25 | 6.3 |
| gpa | -.18 | -.27 | 7.3 |
| age | .52* | .32* | 10.2 |
| number of offspring | .16 | .39* | 15.2 |
| preservice teacher status | .46* | .16 | 2.6 |
| level of student | -.60* | -.39* | 15.2 |
| gender | .19 | .23 | 5.3 |
| black | .58* | .55* | 30.3 |

*Loadings with the effect sizes larger than .3 (Lambert & Durand, 1975).

Figure Caption

*Figure 1*. Thematic structure pertaining to students' perceptions of the characteristics of effective college instructors.

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